

5

be made thereto without departing from the scope. Reference to “one embodiment” or “an embodiment” means that a particular feature, structure or characteristic described therein is included in at least one embodiment. Thus, the appearances of the phrase “in one embodiment” or “in an embodiment” appearing in various places throughout the specification are not necessarily all referring to the same embodiment.

The various embodiments are intended to be protected broadly within the spirit and scope of the appended claims.

What is claimed is:

1. An apparatus comprising

a first and a second panel pivotally connected together at inner edges with a hinge assembly, wherein the first and the second panels can pivot from an open arrangement where the first and the second panels lay side by side to a closed arrangement where the first and the second panels lay one on top of another, and wherein a cavity is formed between the inner edges of the first and the second panels and the hinge assembly when in the closed arrangement; and

a flexible display connected to outer edges of the first and the second panels and mechanically free from the inner edges of the first and the second panels, wherein when in the open arrangement the flexible display extends over the first and the second panels and when in the closed arrangement the flexible display is located internal to the first and the second panels and a portion of the flexible display that is mechanically free enters the cavity to prevent the flexible display from being mechanically folded at a damagingly small radius of curvature at or around the inner edges.

2. The apparatus of claim 1, wherein the hinge provides electrical signals and power between the first and the second panels.

3. The apparatus of claim 1, further comprising a tensioner to guide the portion of the flexible display into the cavity in the closed arrangement.

4. The apparatus of claim 1, further including tabs to prevent the portion of flexible display from flexing out of the apparatus in the open arrangement.

5. The apparatus of claim 1, wherein one of the panels provides only mechanical functions relating to protecting and opening the apparatus.

6. The apparatus of claim 1, wherein the flexible display includes organic light-emitting diodes (OLEDs).

7. The apparatus of claim 1, wherein the flexible display includes organic transistor circuits.

8. The apparatus of claim 1, wherein the flexible display includes inorganic transistor circuits.

9. The apparatus of claim 1, wherein at least one of the first panel and the second panel has a reduced height at the inner edge to create the cavity.

10. The apparatus of claim 1, wherein the hinge assembly pivotally connects the first panel and the second panel at sides on the inner edges thereof to not interfere with the cavity.

11. An apparatus comprising

a first and a second panel pivotally connected together at inner edges with a hinge assembly, wherein the first and the second panels can pivot from an open arrangement

6

where the first and the second panels lay side by side to a closed arrangement where the first and the second panels lay one on top of another, and wherein the second panel includes a slot on an outer edge and a receiving portion in communication with the slot; and

a flexible display fixedly connected to an outer edge of the first panel, tension connected to the receiving portion of the second panel through the slot, and mechanically free from the first and the second panels therebetween, wherein when in the open arrangement the flexible display extends over the first and the second panels and when in the closed arrangement the flexible display is located internal to the first and the second panels and a portion of the flexible display that is mechanically free enters the receiving portion of the second panel through the slot.

12. The apparatus of claim 11, wherein the receiving portion includes a roller to wrap the flexible display around when the flexible display enters the receiving portion in the closed arrangement.

13. The apparatus of claim 12, wherein the receiving portion is formed on the outer edge of the second panel.

14. The apparatus of claim 11, wherein the receiving portion includes a roller system running laterally along bottom of the second panel to guide the flexible display into the second panel laterally along bottom when the flexible display enters the receiving portion.

15. The apparatus of claim 11, wherein the hinge provides electrical signals and power between the first and the second panels.

16. The apparatus of claim 11, wherein the first panel provides only mechanical functions relating to protecting and opening the apparatus.

17. The apparatus of claim 11, wherein the flexible display includes organic light-emitting diodes (OLEDs).

18. The apparatus of claim 11, wherein the flexible display includes organic transistor circuits.

19. The apparatus of claim 11, wherein the flexible display includes inorganic transistor circuits.

20. An electronic device comprising

a processor;

a battery;

a first and a second panel pivotally connected together at inner edges, wherein the first and the second panels can pivot from an open arrangement where the first and the second panels lay side by side to a closed arrangement where the first and the second panels lay one on top of another, and wherein a cavity is formed between the inner edges of the first and the second panels when in the closed arrangement; and

a flexible display connected to outer edges of the first and the second panels and mechanically free from the inner edges of the first and the second panels, wherein when in the open arrangement the flexible display extends over the first and the second panels and when in the closed arrangement the flexible display is located internal to the first and the second panels and a portion of the flexible display that is mechanically free enters the cavity.

* * * * *